



SAN DIEGO COUNTY FIRE AUTHORITY

FIRE CODE PLAN CHECK

CORRECTION LIST FOR RESIDENTIAL PROJECTS

CUSTOMER INFORMATION VERSION

The items listed below are commonly omitted from plans submitted for review. Advance preparation by applicants to satisfy these requirements will help expedite the plan review process. Be advised: just as specific items on this list may not apply to specific projects, this list also does not necessarily include all requirements for all projects; other items may apply. Please use this list as a guide only.

A. GENERAL REQUIREMENTS

1. Each of the items on this list requires correction before a permit will be issued. The approval of plans and specifications does not permit the violation of any section of the fire code, county ordinances, or state law. The following list does not necessarily include all errors and omissions. Codes are paraphrased. Citation is the primary reference. For full text see the County and California Fire and Building Codes.
2. The following supplements are attached and considered part of this review:
 - ☐ Emergency Vehicle Turnaround (CFA #363)
 - ☐ Water Tank Standards for Fire Protection (CFA #600)
 - ☐ 100' Defensible Space Informational Document
 - ☐ Other: _____
3. Plan revisions must be made by printing new sheets incorporating the necessary modifications. You may slip revised sheets into the complete sets as needed provided the original sheets are returned. **Revisions made with pen or pencil, by crossing out or taping on information, or by using white-out are not allowed.**
4. If revised sets include **new plot plans**, County of San Diego zoning and accuracy stamps **must be transferred** by PDS **staff before resubmittal or recheck**. Stamps may not be copied.
5. The following set(s) **must** be returned with the new/revised sets at recheck:
 - ☐ Previously plan-checked and stamped set(s) dated _____.
 - ☐ Red-marked set(s) dated _____. Red marks on plans are part of this comments list.
6. **Plans will not be accepted for resubmittal** unless you submit the **original correction list** – copies not accepted – and a **complete response list** per the following:
 - o Provided on separate 8-1/2-inch by 11-inch sheet(s); do not mark responses on original correction list
 - o Clearly and specifically indicating where and how each correction item has been addressed; vague responses, such as “Done” or “See plans,” are unacceptable
 - o Clearly and specifically indicating **any additional changes made to project** beyond responses to correction items
7. Additional plan check fees will be required if comments are not resolved after the second plan check, if changes are made to the project, or if the previously plan-checked, stamped, and/or red-marked set is not returned.
8. Additional plan check fees required due to: ☐ insufficient progress, ☐ changes, ☐ lost red-marked set, ☐ other

B. PLAN REQUIREMENTS

1. Scope of work on plans does not match scope on permit application. See PDS permit technician to revise permit application.
2. Provide fully dimensioned plot plan drawn to scale and indicating the following:
 - ☐ Lot dimensions with property lines and any easements identified
 - ☐ Size and use of each structure on the lot
 - ☐ Dimensions from structures to property lines (measured at right angles to structures)
 - ☐ Dimensions between structures (measured at right angles to structures)
3. Plans are incomplete. Plan check will proceed with submittal of complete plans. Use this list as a guide in preparing plans.

4. Name, label and specify use of all rooms.
5. Define all symbols and shaded areas etc. used on the plans.

C. SITE REQUIREMENTS

1. **WILDLAND-URBAN INTERFACE SETBACK.** In areas designated as a 'Fire Hazard Severity Zone' in the wildland-urban interface, structures shall be setback a minimum of 30 feet from property lines and biological open space easements unless the fire code official determines that terrain, parcel size or other constraints on the parcel make the required setback infeasible. When parcels are adjacent a national forest, state park or open space preserve, buildings and structures must be located a minimum of 100 feet from the property line adjacent the protected area. (County Fire Code § 4907.1.1)

2. **FUEL MODIFICATION.** *The following language will be affixed to the Plot Plan*

Maintain an effective fuel modification zone by removing, clearing or modifying combustible vegetation and other flammable materials from areas within 100 feet from buildings or structures. Fuel modification zones shall not extend beyond the property line (County Fire Code § 4907.2). The fuel modification zone is divided into two zones:

1. The first zone includes the area from the building to a point 50 feet away. This zone must be modified and planted with fire-resistive plants. Existing vegetation of less than 18 inches in height above the ground need not be removed where necessary to stabilize the soil and prevent erosion.
2. The second zone is the area between 50 to 100 feet from the building. In this zone the native vegetation may remain but it must be thinned by 50% and all dead and dying vegetation must be removed.

Fuel modification is also required along fire access roadways and driveways at distances prescribed in the County Fire Code. (County Fire Code § 4907.2.1)

This Fire Code Section does NOT authorize clearing beyond property lines.

Fuel modification must be complete prior to bringing combustible construction materials on-site.

3. **LOCATION OF ABOVE-GROUND LPG TANK.** Revise the Plot Plan to show the location of the LPG tank. The minimum separation between LPG containers and buildings, public ways, or lines of adjoining property that can be built upon is as follows: 10 feet for containers 125 gallons to 500 gallons, 25 feet for containers 501 gallons to 2,000 gallons. (County Fire Code § 6104.3)

- ☐ Note the gallon capacity for the propane tank.
- ☐ Note the separation distance from the tank to the nearest building(s), public way(s), and/or property line(s).

D. WATER SUPPLY

1. **FIRE HYDRANT.** Revise the Plot Plan to show the location of the nearest existing fire hydrant. For single-family dwellings, fire hydrants shall be installed in accordance with Table C102.1 as found in Appendix C of the 2016 California Fire Code.

- ☐ Every 500 feet
- ☐ Every 625 feet if structure is equipped with an automatic fire sprinkler system designed to NFPA 13R or 13D Standard.
- ☐ Every 750 feet if structure is equipped with an automatic fire sprinkler system designed to NFPA 13 Standard.
- ☐ The parcel is served by a private water district/small water system, please provide the following information as a means to verify existing hydrants in the area; name of district/system, district/system contact name, title and phone number.
- ☐ There is no fire hydrant located within the required distance; please contact the water provider for information and costs associated with the installation of a new fire hydrant, and revise the Plot Plan to show the new hydrant location.

2. **WATER STORAGE TANK.** A water storage tank and fire department connection (FDC) are required for fire protection and suppression purposes. The tank and FDC shall be installed per County of San Diego requirements, and be filled and fully operational prior to the storage of combustible materials on site. (County Fire Code § 507.2.2)

- ☐ 5,000 gallon capacity for building area of less than 1500 sq. ft.
- ☐ 10,000 gallon capacity for building area of 1500 sq. ft. and greater (A greater capacity may be required for substantially larger structures or multiple structures. If using multiple tanks they must be interconnected)
- ☐ Revise the Plot Plan to show tank size (in gallon capacity), location **and** elevation
- ☐ Revise the Plot Plan to show the fire department connection (FDC), location **and** elevation

E. SITE IDENTIFICATION AND ACCESS

1. **PREMISES IDENTIFICATION.** Approved signs or other approved notices shall be provided and maintained for fire apparatus access roads to identify such roads and prohibit the obstruction thereof or both. All new public roads, all private roads within major subdivisions, and all private road easements serving four or more parcels shall be named. Road name signs shall comply with County of San Diego Department of Public Works Design Standard #DS-13. The fire code official may require the posting of a fire access roadway where parking has obstructed or could obstruct the required width. (County Fire Code § 503.3)

2. **EASEMENT ADDRESS SIGN.** Revise the Plot Plan to indicate installation of an Easement Address Sign where the easement intersects the named road. All easements which are not named differently from the roadway from which they originate shall have an address sign installed and maintained, listing all address numbers occurring on that easement, located where the easement intersects the named roadway. Minimum size of numbers on signs shall be 4 inches in height with a minimum stroke of ½", and shall contrast with the background. (County Fire Code § 505.3).
3. **ADDRESS NUMBERS.** Revise the Plot Plan to indicate installation of Address Numbers at the driveway entrance and front elevation of the structure. Approved numbers and/or addresses shall be placed on all new and existing buildings and at appropriate additional locations as to be plainly visible and legible from the street or roadway fronting the property from either direction of approach. The address numbers shall be a minimum of 4 inches in height with a ½" stroke, and shall contrast with the background. (County Fire Code § 505.1)
4. **FIRE APPARATUS ACCESS.** Fire apparatus access roads, including private residential driveways, shall be required for every building when any portion of an exterior wall of the first story is located more than 150 feet from the closest point of fire department vehicle access. (County Fire Code § 503.1)
 - ☐ Revise the Plot Plan to show the road/access easement as it appears on the legal division of land
 - ☐ Revise the Plot Plan to show driveway access to all proposed structures
5. **DEAD ENDS.** All dead end fire access roads, including private residential driveways, in excess of 150 feet in length shall be provided with an approved means for turning around emergency apparatus. In addition, for private residential driveways that are determined to be over length by the fire code official, turnouts are required (County Fire Code § 503.2.5 & 2.8)
 - ☐ Revise the Plot Plan to show the location of an emergency vehicle turnaround (**off-street parking as required by the County Zoning Ordinance shall not encroach into the turnaround area – see #12 below**)
 - ☐ Revise the Plot Plan to show the location of (a) driveway turnout(s). Turnouts shall be a minimum of 12 feet wide and 30 feet long with a minimum 25 foot taper on each end. See Plot Plan for required turnout locations indicated in red
6. **DIMENSIONS.** Fire apparatus access roads shall have an unobstructed improved width of not less than 24 feet. Exception: single family residential driveways serving no more than two single-family dwellings shall have a minimum of 16 feet of unobstructed improved width. All fire apparatus access roads shall have an unobstructed vertical clearance of not less than 13 feet 6 inches. (County Fire Code § 503.2.1)
 - ☐ Revise the Plot Plan to show dimensions for the improved width of the road/access easement
 - ☐ Revise the Plot Plan to show dimensions for the improved width of the driveway as stated above
 - ☐ Note the requirement for unobstructed vertical clearance as stated above
7. **TURNING RADIUS.** The inside turning radius of a fire apparatus access road shall be a minimum of 28 feet, or as approved by the fire code official. (County Fire Code § 503.2.4)
 - ☐ Revise the Plot Plan to indicate the inside turning radius as it relates to driveway turns
 - ☐ Revise the Plot Plan to indicate the inside turning radius as it relates to emergency vehicle turnaround
8. **BRIDGES.** When a bridge is required to be used as part of a fire apparatus access road, it shall be constructed and maintained in accordance with standard AASHTO HB-17. (County Fire Code § 503.2.6)
 - ☐ Submit plans and calculations for the bridge design to the County Building Division for review and approval
9. **GRADE.** The grade of a fire apparatus access roadway shall not exceed 20.0%. (County Fire Code § 503.2.7)
 - ☐ Revise the Plot Plan to show the grade of the road/access easement at the property frontage
 - ☐ Revise the Plot Plan to show the grade of the driveway at representative locations along the complete path of travel
10. **SURFACE.** Revise the Plot Plan to show the fire access road surface material. Fire apparatus access roadways shall be designed and maintained to support the imposed loads of fire apparatus (not less than 75,000 lbs., unless authorized by the fire code official) and shall be provided with an approved paving surface so as to provide all-weather driving capabilities. Paving and sub-base shall be installed to the standards specified in the County of San Diego Parking Design Manual. (County Fire Code § 503.2.3)
 - ☐ 0 – 14% Slope – Minimum Surface: 2" Asphaltic Concrete
 - ☐ 15 – 20% Slope – Minimum Surface: 3" Asphaltic Concrete OR 3-1/2" Portland Concrete with deep broom finish perpendicular to the path of travel.
 - ☐ All pervious and semi-pervious paving materials must be designed to support the imposed loads of fire apparatus (not less than 75,000 lbs). Provide certification from product manufacturer as proof of compliance with this requirement.
11. **TRAFFIC CALMING DEVICES.** Traffic calming devices (speed bumps, speed humps, speed control dips, etc.) shall be prohibited unless approved by the fire code official. (County Fire Code § 503.4.1)
12. **OBSTRUCTIONS.** Parking or other obstruction of the full required width of a fire apparatus roadway is prohibited (County Fire Code § 503.4 and California Vehicle Code § 22500.1)

12. **GATES.** Revise the Plot Plan to show the location of all gated access points, including clear opening width and gate operation; i.e. rolling, swinging, etc. All gates or other structures or devices that could obstruct fire access roadways or otherwise hinder emergency operations are prohibited unless they meet standards and receive specific plan approval from the fire code official. (County Fire Code § 503.6)
- Gates shall be located a minimum of 30 feet from the nearest edge of the roadway.
 - Gates shall be at least two (2) feet wider than the width of the traffic lane serving the gate.
 - Note whether the operation of the gate is electrically powered* or manual (*if powered, see #13 below)

13. **KEY BOXES.** Revise the Plot Plan to show the location of an emergency access key box. Approved key boxes are required when access to or within a structure or an area is unduly difficult because of secured openings, or where immediate access is necessary for life-saving or firefighting purposes. (County Fire Code § 506.1)

- ☐ For information regarding approved key boxes, go to www.knoxbox.com, and at the bottom of the home page select 'Buy Now' - then enter the name of the Fire Agency.

Fire Agency: _____

F. IGNITION-RESISTANT CONSTRUCTION IN A FIRE HAZARD SEVERITY ZONE

- ☐ **THIS PARCEL IS NOT LOCATED IN A FIRE HAZARD SEVERITY ZONE AND AS SUCH IS EXEMPT FROM THESE REQUIREMENTS.**

1. For roof coverings where the profile creates space between the roof covering and combustible roof decking, specify one of the following means of protecting spaces at eave ends (County Building Code 92.1.705A.2):
 - Fire-stopping with approved materials (e.g., non-combustible birdstops for curved or 'S' tile)
 - One layer of No. 72 ASTM cap sheet installed over combustible decking
 - Otherwise constructed to prevent intrusion of flames and embers
2. Exposed valley flashings shall be constructed with minimum 26-gauge corrosion-resistant metal installed over minimum 36-inch-wide single layer of No. 72 ASTM cap sheet running full length of valley. (County Building Code 92.1.705A.3)
3. Any roof gutters shall be provided with means to prevent accumulation of leaves and debris. (County Building Code 92.1.705A.4)
4. Skylights shall be tempered glass. (County Building Code 92.1.705A.5)
5. All vents (roof, foundation, combustion-air, etc.) shall comply with the following (County Building Code 92.1.706A.1):
 - Protected by louvers and 1/8-inch noncombustible, corrosion-resistant mesh
Exception: Approved vents resisting intrusion of flames and embers
 - Turbine attic vents equipped to allow rotation in only one direction
6. Vents prohibited in eaves, eave overhangs, soffits, or cornices. (County Building Code 92.1.706A.2)
Exception: Approved vents resisting intrusion of flames and embers
Exception: Gable-end vents allowed if located minimum 12 inches below lowest eave/rake projection
Exception: As allowed by building official and local fire authority and per eave details in guidance document PDS #198
7. Detail eaves, soffits, and fascias per guidance document PDS #198. (County Building Code 92.1.706A.3)
Exception: Detailed eaves and soffits meeting SFM Standard 12-7A-3
Exception: Eave construction on an addition may match existing structure if addition square footage does not exceed 50% of existing structure or 2,500 square feet, whichever is less and any vents in new eaves meet items F.5 and F.6
8. Specify exterior wall finish complying with one of the following (County Building Code 92.1.707A.1)
Exception: Livestock stables of less than 2,000 square feet of total floor area and without a restroom if located minimum 100 feet from all property lines, any open space easement, and any dwelling on the parcel
Exception: Repair or replacement of less than 50% of an existing exterior wall may be like-for-like unless the wall covering is wood shingle or wood shake, in which case it shall be repaired or replaced with fire-retardant, pressure-treated wood shingles or wood shakes
Exception: Repair or replacement of 50% or more of an existing exterior wall shall require the entire wall to meet all requirements of section J
 - Noncombustible material (stucco, cement fiber board, masonry, etc.)
Exception: 3/4-inch wood drop siding or 3/8-inch plywood with an underlayment of 1/2-inch fire-rated gypsum sheathing that is tightly butted or taped and mudded or other ignition-resistant material approved by the building official
 - Ignition-resistant material
 - Heavy timber
 - Log wall construction (smallest horizontal dimension minimum 6 inches)
9. Enclose underfloor areas to the ground with exterior wall construction per item F.8. (County Building Code 92.1.709A.4.2.2)

10. Specify on window and door schedules exterior windows, exterior glazed doors, glazed openings within exterior doors, and glazed openings within exterior garage doors complying with **one of the following** (County Building Code 92.1.708A.2):
 - Multi-paned glass with minimum one tempered pane (glazing frames made of vinyl materials shall have welded corners, metal reinforcement in interlock area, and be certified to ANSI/AAMA/NWDA 101/I.S.2-97 structural requirements)
 - Glass block units
 - Minimum 20-minute fire-rated (provide listing or test report)
 - Meet performance requirements of SFM Standard 12-7A-2
11. Specify on door schedule exterior doors complying with **one of the following** (County Building Code 92.1.708A.3):
 - Exterior surface or cladding of noncombustible or ignition-resistant material
 - Solid-core wood minimum 1-3/8-inch thick
 - Minimum 20-minute fire-rated
 - Meet performance requirements of SFM Standard 12-7A-1
12. Detail patio cover, carport, and trellis construction complying with any of the following (County Building Code 92.1.709A.1):

Exception: Freestanding trellis of less than 250 square feet in area and located minimum 30 feet from nearest structure and all property lines

 - Noncombustible material
 - 1-hour fire-rated material
 - Approved exterior fire-retardant treated wood*

*Approved products are: Exterior Fire-X by Hoover (<http://www.frtw.com/?gclid=CNL8ooDFq7sCFew7MgodYlwAvQ>) and FRX Exterior Fire-Retardant Treated Wood (<http://www.frxwood.com/>)
 - Modified heavy timber (minimum 2x tongue-and-groove sheathing, 4x6 rafters/beams, 6x6 posts/columns)
13. Detail deck, balcony, and exterior stair construction complying with the following (County Building Code 92.1.709A.1):

Exception: Freestanding deck of less than 250 square feet in area and located minimum 30 feet from nearest structure and all property lines

Exception: Detached deck meeting all of the following: Separated from any building by minimum 5 feet of noncombustible surface, decking surface material minimum 1-1/2-inches thick, located at or below elevation of building ground floor and not exposed to underfloor area or basement opening, skirted with noncombustible material from deck walking surface to ground, and underdeck area vented in conformance with item F.5

Exception: Deck repair or replacement involving 50% or more of the existing deck or 1,000 square feet of deck area, whichever is less, shall require the entire deck to meet all requirements of this item

 - ☐ Framing (any of the following):

Exception: Structural supports of decks, balconies, and similar projections skirted from floor level to ground level with noncombustible material with any underdeck area vented in conformance with item F.5

 - Noncombustible material
 - 1-hour fire-rated material
 - Approved exterior fire-retardant treated wood (see F.12)
 - Modified heavy timber (minimum 4x8 joists/treads, 4x10 or 6x8 beams/stringers, 6x6 posts/columns)
 - ☐ Decking and tread material (any of the following):
 - Noncombustible material
 - 1-hour fire-rated material
 - Approved exterior fire-retardant treated wood (see F.12)
 - Approved alternative decking material meeting test requirements of County Building Code 92.1.709A.1.4*

*You must **specify** an approved material (a sampling of approved products is available upon request)
14. Specify on plans any portion of a fence or other structure within five feet of building shall be constructed per one of the following (County Building Code 92.1.712A.1):

Exception: Vinyl fencing as allowed by building official

 - Noncombustible material
 - Approved exterior fire-retardant treated wood (see F.12)
 - Material meeting same fire-resistive standards as exterior walls of building

- G. ROOFING REQUIREMENTS.** Roofing shall have a minimum Class 'A' fire rating. For roof coverings where the profile allows a space between the roof covering and roof decking, the space at the eave ends shall be fire stopped to preclude entry of flames or embers. (County Building Code § 1505)
- ☐ Specify roofing material and provide manufacturer, product name and ICC, UL, or equivalent listing report number.
 - ☐ *Note on roof plan or elevations:* "Roofing shall have a Class A fire rating." (County Building Code 92.2.R902 and County Building Code 92.1.1505.1)
 - ☐ In roof area additions or alterations involving more than 50% of a structure's existing roof area or 2,500 square feet – whichever is less – the structure's entire roof covering – new and existing – shall have a Class A fire rating. (County Building Code 92.1.1505.1)
 - ☐ Indicate on roof plan location and sizes of skylights. Specify manufacturer and ICC, UL, or equivalent listing report number. (CRC R308.6)

- ☐ Provide specification for pre-fabricated fireplace(s) shown on plans; manufacturer, model number and ICC, UL or equivalent listing report number – OR – specify that the fireplace is masonry/site-built.
- ☐ Revise Roof Plan(s) and Exterior Elevation(s) to show location of chimney(s).
- ☐ Indicate the requirement for an 'approved spark arrester' at each chimney shown.